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EXAMINER	
PHAM, TUAN	

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,611	ZIPPER, ELIAV	
	Examiner	Art Unit	
	TUAN A PHAM	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,10-14 and 17-21* is/are rejected.

7)☒ Claim(s) *5-9,15,16,22 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract is not described the scope of the invention. Correction is required. See MPEP § 608.01(b).

2. The specification of the disclosure is objected to because the BRIEF SUMMARY OF THE INVENTION is not disclosed in the specification. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. **Claims 1-2 and 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirama (U.S. Patent No.: 6,788,744).**

Regarding claim 1, Hirama teaches a transmitter, comprising (see figure 2, col.6, ln.60-62): a first variable gain amplifier (read on level variant means 23) having a first AGC loop (read on loop linked between having indicator "G1") to control a gain thereof (see figure 2, first level variant means 23, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 through controlling means 25, col.7, ln.45-67); a second variable gain amplifier (read on level adjustment means 24) having a second AGC loop (read on loop linked between having indicator "G2") to control a gain thereof, the second variable gain amplifier being located within a common transmitter chain as the first variable gain amplifier (see figure 2, second level adjustment means 24, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36); and a controller to manage the first AGC loop and the second AGC loop to achieve a desired result at an output of the transmitter (see figure 2, controlling means 25, it is inherently that the controlling means 25 comprises a plurality of automatic gain controls (AGCs), and a processor or controller for controlling their gains or gain values. Each of AGCs associated with each of level variant means and level adjustment means amplifier).

Regarding claim 2, Hirama further teaches the transmitter comprising: at least one other variable gain amplifier within the common transmitter chain, said at least one

other variable gain amplifier having a corresponding AGC loop, wherein said controller manages said first AGC loop, said second AGC loop, and said AGC loop of said at least one other variable gain amplifier to achieve said desired result (see figure 2, first level variant means 23, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 through controlling means 25, col.7, ln.45-67, second level adjustment means amplifier, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36, controlling means 25, it is inherently that the controlling means 25 comprises a plurality of automatics gain control, and a processor or controller for controlling the gain of gain control. Each of AGC associated with level variant means and level adjustment means amplifier).

Regarding claim 11, Hirama teaches a method for generating a transmit signal, comprising: determining a desired transmit power result for a transmitter (see col.4, ln.20-29, power control circuit for controlling the power in transmitter); determining gain values for multiple variable gain amplifiers in the transmitter to achieve the desired transmit power result (see figure 2, controlling mean 25, multiple level variant means amplifier 23, level adjustment means amplifier 24, col.7-8, ln.1-67); and delivering the gain values to AGC loops associated with the multiple variable gain amplifiers, the AGC loops to adjust the gains of said multiple variable gain amplifiers in accordance with said gain values (see figure 2, controlling means 25, it is inherently that the controlling means 25 comprises a plurality of automatics gain control, and a processor or controller

for controlling the gain of gain control. Each of AGC associated with level variant means and level adjustment means amplifier).

Regarding claim 12, Hirama further teaches a desired transmit power result includes determining a desired transmit power level (see col.1, ln.7-14, col.4, ln.20-29, power control circuit for controlling the power in transmitter).

Regarding claim 13, Hirama further teaches a desired transmit power result includes determining a desired change in transmit power level (see col.1, ln.7-14, col.4, ln.20-29, power control circuit for controlling the changing power in transmitter).

Regarding claim 14, Hirama further teaches desired gains includes determining gains that enhance a dynamic range of said transmitter (see col.3, ln.16-38).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 3, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama (U.S. Patent No.: 6,788,744) in view of Kawasaki (U.S. Patent No.: 5,625,647).

Regarding claim 3, Hirama teaches a transmitter, comprising (see figure 2, col.6, ln.60-62): a first variable gain amplifier (read on level variant means 23) having a first AGC loop (read on loop linked between having indicator "G1") to control a gain

thereof (see figure 2, first level variant means 23, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 through controlling means 25, col.7, ln.45-67); a second variable gain amplifier (read on level adjustment means 24) having a second AGC loop (read on loop linked between having indicator "G2") to control a gain thereof, the second variable gain amplifier being located within a common transmitter chain as the first variable gain amplifier (see figure 2, second level adjustment means 24, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36); and a controller to manage the first AGC loop and the second AGC loop to achieve a desired result at an output of the transmitter (see figure 2, controlling means 25, it is inherently that the controlling means 25 comprises a plurality of automatics gain control, and a processor or controller for controlling the gain of gain control. Each of AGC associated with level variant means and level adjustment means amplifier).

It should be noticed that Hirama fails to teach the transmitter comprising: a CW source having a controllable output level; and an ALC loop to control said output level of said CW source, wherein said controller manages said ALC loop to achieve said desired result. However, Kawasaki teaches such features (see figure 1, col.2, ln.46-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kawasaki into view of

Hirama in order to perform the accurate automatic level control as suggested by Kawasaki at column 1, lines15-20.

Regarding claim 17, Hirama teaches a transmitter, comprising (see figure 2, col.6, ln.60-62): a first variable gain amplifier having a first AGC loop to control a gain thereof (see figure 2, first level variant means 23 with plurality N of input signals, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 with plurality N of input signals through controlling means 25, col.7, ln.45-67); a second variable gain amplifier having a second AGC loop to control a gain thereof, the second variable gain amplifier being located within a common transmitter chain as the first variable gain amplifier (see figure 2, second level variant means 23 with single input signal, controlling mean 25 is controlling the second gain G1 and the second gain loop is connected at the output signal level adjustment means 24 to second level variant means 23 with single input signal through controlling means 25, col.8, ln.1-36); and a controller to manage the first AGC loop and the second AGC loop to achieve a desired result at an output of the transmitter (see figure 2, controlling means 25, it is inherently that the controlling means 25 comprises a automatics gain control and a processor or controller for controlling the gain of gain control).

It should be noticed that Hirama fails to teach the transmitter comprising: a CW source having a controllable output level; and an ALC loop to control said output level of said CW source, wherein said controller manages said ALC loop to achieve said desired result. However, Kawasaki teaches such features (see figure 1, col.2, ln.46-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kawasaki into view of Hirama in order to perform the accurate automatic level control as suggested by Kawasaki at column 1, lines15-20.

Regarding claim 18, Hirama teaches a transmitter, comprising (see figure 2, col.6, ln.60-62): a first variable gain amplifier (read on level variant means 23) having a first AGC loop (read on loop linked between having indicator "G1") to control a gain thereof (see figure 2, first level variant means 23, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 through controlling means 25, col.7, ln.45-67); a second variable gain amplifier (read on level adjustment means 24) having a second AGC loop (read on loop linked between having indicator "G2") to control a gain thereof (see figure 2, second level adjustment means 24, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36), the second variable gain amplifier being located within a common transmitter chain as the first variable gain amplifier (see figure 2, second level adjustment means 24, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36); and a controller to manage the first AGC loop and the second AGC loop to achieve a desired result at an output of the transmitter (see figure 2, controlling means 25, it is inherently

that the controlling means 25 comprises a plurality of automatics gain control, and a processor or controller for controlling the gain of gain control. Each of AGC associated with level variant means and level adjustment means amplifier).

It should be noticed that Hirama fails to teach a CW source to generate a carrier signal; a modulator to modulate said carrier signal based on input data. However, Kawasaki teaches such features (see figure 1, col.2, ln.46-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Kawasaki into view of Hirama in order to perform the accurate automatic level control as suggested by Kawasaki at column 1, lines15-20.

Regarding claim 19, Kawasaki further teaches said CW source has an ALC loop associated with it to control an output level thereof, wherein said controller determines an output level for the CW source to achieve the desired result at the output of the transmitter, said controller to deliver said output level to the ALC loop of the CW source (see figure 1, col.2, ln.46-64).

Regarding claim 20, Hirama further teaches a frequency translation device between the first and second variable gain amplifiers to translate a frequency of a signal propagating from the first variable gain amplifier to the second variable gain amplifier (see figure 2, combining means 22, col.7, ln.45-67).

Regarding claim 21, Hirama further teaches at least one other variable gain amplifier having a corresponding AGC loop, wherein said controller determines gains for said first AGC loop, said second AGC loop, and said AGC loop of said at least one

other variable gain amplifier to achieve said desired result (see figure 2, multiple level variant means 23, controlling means 25, col.7-8, ln.1-67).

7. **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama (U.S. Patent No.: 6,788,744) in view of Langston et al. (U.S. Patent No.: 6,212,397).**

Regarding claim 4, Hirama teaches a transmitter, comprising (see figure 2, col.6, ln.60-62): a first variable gain amplifier (read on level variant means 23) having a first AGC loop (read on loop linked between having indicator "G1") to control a gain thereof (see figure 2, first level variant means 23, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 through controlling means 25, col.7, ln.45-67); a second variable gain amplifier (read on level adjustment means 24) having a second AGC loop (read on loop linked between having indicator "G2") to control a gain thereof, the second variable gain amplifier being located within a common transmitter chain as the first variable gain amplifier (see figure 2, second level adjustment means 24, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36); and a controller to manage the first AGC loop and the second AGC loop to achieve a desired result at an output of the transmitter (see figure 2, controlling means 25, it is inherently that the controlling means 25 comprises a plurality of automatics gain control, and a processor or controller for controlling the gain of gain

control. Each of AGC associated with level variant means and level adjustment means amplifier).

It should be noticed that Hirama fails to teach the transmitter comprising: at least one of said first AGC loop and said second AGC loop uses a pilot signal to adjust a gain of a corresponding variable gain amplifier, said pilot signal being different from a communication signal propagating through the transmitter chain. However, Langston teaches such features (see col.6, ln.56-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Langston into view of Hirama in order to control the gain in transmit signal.

8. **Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirama (U.S. Patent No.: 6,788,744) in view of Lee et al. (U.S. Patent No.: 6,781,424).**

Regarding claim 10, Hirama teaches a transmitter, comprising (see figure 2, col.6, ln.60-62): a first variable gain amplifier (read on level variant means 23) having a first AGC loop (read on loop linked between having indicator "G1") to control a gain thereof (see figure 2, first level variant means 23, controlling mean 25 is controlling the first gain G1 and the first gain loop is connected at the output signal level adjustment means 24 to first level variant means 23 through controlling means 25, col.7, ln.45-67); a second variable gain amplifier (read on level adjustment means 24) having a second AGC loop (read on loop linked between having indicator "G2") to control a gain thereof, the second variable gain amplifier being located within a common transmitter chain as

the first variable gain amplifier (see figure 2, second level adjustment means 24, controlling mean 25 is controlling the second gain G2 and the second gain loop is connected at the output signal level adjustment means 24 through controlling means 25, col.8, ln.1-36); and a controller to manage the first AGC loop and the second AGC loop to achieve a desired result at an output of the transmitter (see figure 2, controlling means 25, it is inherently that the controlling means 25 comprises a plurality of automatics gain control, and a processor or controller for controlling the gain of gain control. Each of AGC associated with level variant means and level adjustment means amplifier).

It should be noticed that Hirama fails to teach activates said first AGC loop, when deactivated, to compensate for drift within the transmitter circuitry. However, Lee teaches such features (see col.8, ln.1-12)..

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lee into view of Hirama in order to save the power in transmitter.

Allowable Subject Matter

9. Claims 5-9, 15-16, and 22-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Kaneko et al. (U.S. Patent No. 6,275,684), Poirier et al. (U.S. Patent No. 6,625,433), Shibamura (U.S. Patent No. 6,647,072), and Tsumura (U.S. Patent No. 6,075,987) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (571) 272-7499 and

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Art Unit 2643
April 14, 2005
Examiner

BINH TIEU
PRIMARY EXAMINER

Tuan Pham